

1 **1. (original)** A method of analyzing a set of assets selected from a plurality of thereof,
 2 historic returns data for the assets of the plurality being stored in storage accessible to a
 3 processor and
 4 the method comprising the steps performed in the processor of:
 5 receiving inputs indicating assets selected for the set and for each asset, a desired
 6 minimum return;
 7 using the historic returns data to determine a probability that at least one of the
 8 selected assets will not provide the desired minimum return indicated for the asset; and
 9 outputting the probability.

1 **2. (original)** The method set forth in claim 1 wherein
 2 the step of using the historic returns to determine a probability comprises the steps
 3 of:
 4 using the multivariate normal distribution for the returns of the assets to determine
 5 the probability that each of the selected assets will provide the desired minimum return;
 6 and
 7 determining the probability that at least one of the selected assets will not provide
 8 the desired minimum return from the probability that each of the selected assets will
 9 provide the desired minimum return.

1 **3. (original)** The method set forth in claim 2 wherein:
 2 in the step of using the multivariate normal distribution, the probability that each
 3 of the selected assets will provide the desired return is determined using the real option
 4 values of the assets.

1 **4. (original)** A method of optimizing a set of assets, historic returns data for the assets
 2 being stored in storage accessible to a processor and
 3 the method comprising the steps performed in the processor of:
 4 receiving inputs indicating a set of scenarios for the set of assets, each scenario
 5 having values which are used in optimizing the set of assets and which vary stochastically
 6 between two extremes and a probability of occurrence for the scenario; and

7 determining weights of the assets in the set such that the worst-case value of the
8 set of assets is optimized over the set of scenarios.

1 **5. (original)** The method of optimizing set forth in claim 4 wherein:
2 the worst-case value of the set of assets is the worst-case real option value thereof;
3 and
4 the values which are used in optimizing are the mean return and the covariance.

1 **6. (original)** The method of optimizing set forth in claim 4 wherein:
2 a scenario in the set of scenarios may correspond to the historical returns data for
3 the assets in the set of assets.

1 **7. (original)** The method of optimizing set forth in claim 4 wherein:
2 a scenario in the set of scenarios may include certain assets in the set of assets
3 which are highly correlated.

1 **8. (original)** The method of optimizing set forth in claim 4 wherein:
2 a scenario in the set of scenarios may correspond to outliers in the historical
3 returns data.

1 **9. (original)** The method of optimizing set forth in claim 4 further comprising the step
2 of:
3 receiving inputs indicating additional constraints to which the set of assets being
4 optimized is subject; and
5 in the step of determining weights of the assets, determining the weights subject
6 to the additional constraints.

1 **10. (original)** A method of selecting a set of assets from a plurality thereof and
2 optimizing the weights of the assets in the set, historic returns data for assets being stored
3 in storage accessible to a processor and
4 the method comprising the steps performed in the processor of:

5 1) selecting a set of assets on the basis of a probability that at least one of the
6 assets in a selected set will not provide the desired minimum return indicated for the
7 asset; and

1 2) optimizing the weights of the assets in the selected set.

1 **11. (original)** The method set forth in claim 10 wherein:

2 the probability that at least one of the assets will not provide the desired minimum
3 return is determined using the real option values for the assets.

1 **12. (original)** The method set forth in claim 10 wherein:

2 optimizing the weights of the assets is done using the real option values for the assets.

1 **13. (original)** The method set forth in claim 10 wherein:

2 optimizing the weights of the assets is done using robust optimization.

1 **14. (original)** The method set forth in claim 13 wherein:

2 the robust optimization optimizes over a set of user-specified scenarios, each scenario
3 having values which are used in optimizing the set of assets and which vary stochastically
4 between two extremes and a probability of occurrence for the scenario.

1 **15. (original)** The method set forth in claim 10 wherein:

2 optimizing the weights of the assets is done subject to a constraint that the probability
3 that the set of assets yields a desired minimum return is greater than a user-specified value α .

1 **16. (original)** The method set forth in claim 15 wherein:

2 the optimization is done subject to a plurality of constraints $(1..n)$, a constraint c_{hi} specifying
3 that the probability that the set of assets yields a desired minimum return that is greater than a user-
4 specified value α_{ir} .

1 **17. (previously presented)** The method set forth in claim 15 wherein:

2 optimizing the weights of the assets in the set is done using robust optimization.

- 1 **18. (original)** The method set forth in claim 17 wherein:
- 1 **19. (original)** The method set forth in claim 10 wherein:
2 the asset may have a negative weight.
- 1 **20. (original)** The method set forth in claim 10 wherein;
2 the sum of the weights of the assets in the set may exceed 1.
- 1 **21. (original)** The method set forth in claim 10 wherein:
2 optimizing the weight of the assets is done subject to one or more additional
3 constraints.
- 1 **22. (original)** The method set forth in claim 21 wherein:
2 the additional constraint restricts the sum of the weights of the assets belonging
3 to a selected subset of the assets in the set.
- 1 **23. (original)** The method set forth in claim 21 wherein:
2 the additional constraint constrains the weight of an asset such that the amount of
3 the asset in the set is above a minimum investment threshold.
- 1 **24. (original)** The method set forth in claim 21 wherein:
2 the additional constraint limits constrains the set's downside risk to be less than a
3 predetermined value b
- 1 **25. (original)** The method set forth in claim 24 wherein;
2 the additional constraint is computed from the worst draw-down for each asset.
- 1 **26. (original)** The method set forth in claim 24 wherein:
2 the additional constraint is computed from the set's average return and standard
3 deviation.
- 1 **27. (original)** The method set forth in claim 12 wherein:

2 the method further includes the step of:
 3 receiving an input indicating one of a plurality of objective functions for computing the
 4 real option values for the assets; and
 5 in the step of optimizing the weights of the assets, the optimization is done using the
 6 indicated objective function of the plurality.

1 **28. (previously presented)** The method set forth in claim 12 wherein:
 2 in the step of optimizing the weights of the assets, the objective function is adjusted by
 3 assigning a premium or a discount to the real option value of one or more of the assets.

1 **29. (previously presented)** The method set forth in claim 28 wherein:
 2 the objective function is adjusted to take non-normal returns for the asset into account.

1 **30. (original)** The method set forth in claim 28 wherein:
 2 the objective function is adjusted to take liquidity characteristics of the asset into account.

1 **31. (original)** The method set forth in claim 28 wherein:
 2 the objective function is adjusted to take tax sensitivity of an asset into account.

1 **32. (original)** The method set forth in claim 28 wherein:
 2 the objective function is adjusted to take the length of time an asset has been available
 3 into account.

1 **33. (original)** The method set forth in claim 12 wherein:
 2 the method further includes the step of:
 3 receiving an input indicating one of a plurality of modes of quantifying the risk of an
 4 asset; and
 5 in the step of optimizing the weights of the assets, the optimization is done using the
 6 indicated mode of the plurality.

1 **34. (new)** The method set forth in claim 1 wherein:
 2 the received inputs include a period of time; and

3 the probability is the probability over the period of time.

1 **35. (new)** The method set forth in claim 10 wherein:

2 the probability is the probability over a period of time.